

SOAP PRODUCTION TECHNOLOGY

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Abstract. *This article analyzes theoretical data on soap production technology. Baseline data are shown as percentages. The article also talks about the analysis of how much the process can be accelerated with the help of modern technologies.*

Key words: *soap production technology, handmade, ingredients, fatty acid.*

ТЕХНОЛОГИЯ ПРОИЗВОДСТВА МЫЛА

Аннотация. *В данной статье анализируются теоретические данные по технологии производства мыла. Исходные данные представлены в процентах. В статье также говорится об анализе того, насколько процесс можно ускорить с помощью современных технологий.*

Ключевые слова: *технология производства мыла, ручная работа, ингредиенты, жирная кислота.*

Making soap is one of those promising ideas that will allow you to start a profitable business in your apartment, both on an industrial scale and in the "handmade" mode. A successful business project for the production of soap products includes several main stages: Purchase of equipment and inventory for the production process. Procurement of quality raw materials and additional ingredients. Creation of effective and safe technology for soap production, packaging and storage. Organization of sales of products. Industrial soap production To organize a soap shop, an entrepreneur must equip the premises with special equipment. It is enough to have a plate, molds and a few large metal containers for the initial production. After the enterprise "gets on its feet" and there is a need to modernize production, it is necessary to purchase a special production line. Such equipment includes refrigerators, mixers, stamping machines, grinding, cutting and forming machines. Innovations help to reduce the share of manual labor, increase the profitability of the process and the profitability of production. To obtain industrial soap, they mainly use cheap raw materials - coconut, palm oil, fatty acids produced from petroleum products and artificial flavors.

Industrial soap production technology Industrial soap production process can be divided into two stages: Chemical stage of soap production. Treatment of fatty acids with aqueous solutions of sodium (potassium) and alkalis. The semi-finished product obtained during the chemical reaction ("glue soap") is cleaned with electrolytes, separated into "soap cream" and waste (water, glycerin). The mechanical stage of soap production. The resulting "sound" soap consists of cooling, drying and mixing with various ingredients (perfumes, aromatic oils, dyes, etc.). Then the finished product is cut, pressed and formed. To correctly calculate the soap production business plan, it is necessary to predict all the costs of the activity. These include: rental of workshop premises and utility costs; the price of the equipment; the cost of purchasing raw materials (it is better to start the production of several types of soap at the same time in order to promote the product in the market); costs for salary workers (3-4 workers are enough for the

initial stage); product advertising and packaging production costs (do not forget that branded packaging is the "face" of the enterprise!). Sales of soap can be established both through sales points, and through pharmacies and online commerce. Economic impact with proper planning, marketing organization and optimal pricing policy You will be able to familiarize yourself with the company's activities within a month. "Exclusive" soap at home For the production of homemade soap, only high-quality natural vegetable and animal fats, fragrances and essential oils are used. The result of the work of an artisan-private trader is a hypoallergenic natural soap with a unique appearance and a high price. The organization of soap production is self-achieving. You will need large stainless steel pots, a refrigerator, measuring cups, various forms and scales. The components are mixed according to the recipe, soaped with an alkaline solution. In addition, hot or cold technologies are used to process the obtained semi-finished product. The hot method (more cost-effective) consists in heating the mass with all additives in a water bath. After 3-4 hours (without allowing the product to cool), the product is poured into molds. Frozen soap is removed, cut (if necessary) and protected for 2 weeks. Making cold soap at home consists of pouring the prepared mass into molds and "cooking" the soap for 3-4 days. After removing from the molds, the product is stored for another 1-12 months (depending on the composition of the soap) until it is ready.

Calculating a business plan for home production is similar to an industrial estimate, taking into account the small-scale technological process. When creating a natural high-quality product, the organization of the sale of goods comes to the fore. Expensive soap making "masterpieces" are great gifts for various holidays and the optimal choice for people who prefer environmentally friendly products. In the sale of such soap, it is necessary to cooperate with pharmacies and cosmetics boutiques, as well as distribute goods via the Internet. Video industry and home production of soap Today there are simply a large number of promising directions to start your own small business. At the initial stage, it is important to know that the business will not burn out, but will actually make a profit. We look at the production of laundry soap, liquid and toiletries. All these elements are in great demand in the modern market. Production of laundry soap It should be noted that the competition in this field is not so great at the moment, so soap production is a very profitable business that does not require large investments either at the initial stage or in the future. In addition, funds are fully returned after six months in the worst case, and in the best case - after 3-4 months of active work. As for profitability, it is about 40-55%, which is very good. Basically, the profit directly depends on the skill of the soap maker. In any case, you can start without the slightest idea about the technology of making soap, after a while, both valuable experience and skill will appear. It should be noted that the more environmentally friendly products are used for production, the better the sales, and this is a proven fact.

Today, the market saturation with the product is only 50%, which is very small. What is laundry soap and what are its benefits If we talk about a natural product, industrial laundry soap has a number of important advantages: it fights well with any stains in hot and cold water; they can wash children's clothes; good for sanitizing, washing dishes, etc. But it also has its disadvantages: it has a specific smell; dries the skin. It should be said right away that it is easy to get rid of the unpleasant smell of laundry soap, especially if we are engaged in our own production. To do this, you will need to add special oils to its composition, but you will learn more about this later. Of course, the production of laundry soap is a very laborious process.

However, as a result, we get not only a clean natural product, but also a good profit. How to make soap Here the choice is small. There are several ways to make laundry soap at home. Of course, here it is desirable to have at least some knowledge in the field of chemical processes, because during cooking we come across alkaline, vegetable or animal fats. For the first of them, we need 2 kilograms of caustic soda, which must be poured into water in a ratio of 1: 4, that is, we need 8 liters of water. The mixture is heated to a temperature of +24 ... +27 degrees Celsius. In parallel, we melt the oil at a temperature of 50 degrees and pour a solution of soda and water into it. The amount of fat is clearly defined; if we talk about our work, it is 12.8 kg. The whole mixture should be thoroughly mixed until the mass is completely homogeneous. This is followed by bottling, where it is preferable to use wooden structures. Boxes should be wrapped with felt and hardened for 4-6 days. After complete hardening, our soap is ready for sale. Another option The second method is to use an odorless base with a transparent color. This mass is easy to buy at a low price in any specialized store. It is difficult to say which of the methods of making soap is more effective. Both methods are good and popular. There is a clear sequence in which laundry soap should be made. All work is carried out in the following sequence: The base is pre-crushed and placed in a special container. After that, it is melted in a furnace or oven. After we get the melted mass, it is necessary to add aromatic oils and essences. We color the future soap - it all depends on the master's imagination, but it should not be overdone. We use other additives (sugar, poppy seeds). Pour the liquid mass into pre-prepared molds. After the soap hardens, we remove it from the mold and admire the result. If you strictly follow all the steps, as a result we get a very high-quality product that does not have an unpleasant smell and does not dry the skin very much. It should be noted that laundry soap cannot be packaged at all or wrapped in polythene or paper.

Production of liquid soap In addition to the production of laundry soap, liquid hygiene products can also be sold. It should be noted that serious equipment is needed for the production of soap here, so the costs are quite high. However, such a business pays off very quickly. If you plan to sell on an industrial scale, all funds will be returned after six months. There are many recipes that you can rely on in the process of making liquid soap. If you have enough knowledge, you can even develop yourself a unique product that will be in demand in the market. It should be noted that the purchased equipment can be used without special training. Simply put, it is quite possible to do it yourself, but if the production of liquid soap is planned according to a modular system (increasing production capacity, expanding the sales market, etc.), then it can be successful without special work unlikely. trained people. Equipment required for production As mentioned above, we need not only raw materials for soap production, but also special equipment: two tanks (one for raw materials, the other for refined); emulsifying and mixing engines; feeding device and temperature sensor; pump and gearbox. In general, we need to create our own mini workshop. Of course, it is recommended to contact experts to clarify the prices. To a large extent, the price of the equipment depends on the productivity, so the approach should be competent, there is no need to choose the cheapest equipment for the production of liquid soap. With the help of professional equipment, you can get a high-quality product. Then it remains to find a wholesale outlet, and the business will gradually rise.

It should be noted that liquid soap cooks for a long time, because it is a complex chemical process, in which all elements must be mixed sequentially. A little about the technology of liquid soap production First of all, wood ash dissolves in water. Potassium carbonate is boiled over low

heat, after which an emulsion should form. After that, it begins the next stage - saponification. A portion of lye should be added to the previously obtained emulsion (in a 1:1 ratio), after which the mixture should be boiled until the finished soap is obtained. To understand whether the product is ready or not yet, you need to take a sample. Do this as follows. Take a few drops of liquid and pour it on the surface of the bottle. If the color has not changed after complete cooling and remains light and transparent, this indicates that everything is ready. Often you can see that foreign substances are added to liquid soap, for example, aniseed oil, soluble glass, etc. This is done only to make the product heavier. It should be noted that this has the worst effect on the quality of the product. It is recommended not to use this method for own production, because sooner or later the customer will notice the catch. Preparation of toilet soap Any oily soap is taken as a basis for creating toilet soap. It should contain lye or lard with coconut oil. All ingredients should be as fresh and high quality as possible. Oil can be self-refined, which is much cheaper, or you can buy already refined in the store. You should also strictly follow the proportions: take 5-20 grams of coconut oil for every 10 grams of fat. As for the cooking process itself, it is the same as laundry soap. It should be noted that the production of toilet soap is a very profitable business. Special equipment and knowledge are not required to create a pure and high-quality product. It is only necessary to observe the proportions and constantly monitor the cooking process. To always get a perfectly clean product, it should be hung during and after cooking. As a rule, there is soap with impurities at the bottom, so it is recommended not to pour the liquid completely, but it is recommended to leave a small residue. Conclusion In conclusion, I would like to say that the production of laundry soap, liquid or toilet soap requires a large number of time, but in some cases capital investments can be minimized. 2-3 thousand dollars is enough at the first stage to produce an average quality product. Then you can buy more modern and more expensive equipment. It should be noted that the production of soap as a business is not only an income, but the creation of excellent quality hygiene products is a form of art. You can give the soap any shape you like, experiment with color and smell. In the end, you can get something special that people like. The main thing is that low-quality soap is not for cash, but for pleasure and, of course, not for loss. Handmade soap has many advantages. Unlike the store, it contains only natural ingredients that have a positive effect on the skin and the body in general. In addition, the design of such products is limited only by the imagination of the master. People are happy to buy such soap as a gift or just for themselves, although it is more expensive than its non-natural store counterparts. Of course, this trend did not go unnoticed, and the hobby turned into a decent and interesting way to earn a steady income. Such a business does not require large investments (you can invest only 4 thousand rubles and try yourself in this business) or hire employees, rent or use special equipment. All you have to do is learn the process, stock up on key ingredients, and start creating your own unique product. Necessary Ingredients The first thing that beginner soap makers should know is that there are two main ways to make soap: "from scratch" (completely natural soap made by yourself) and from a ready-made base purchased in specialized stores. Each of them involves the use of special ingredients. solid fats. Olive, palm and coconut oils are traditionally used. They have optimal properties to create a correct, balanced recipe. However, you can add many other oils such as avocado, grape seed, jojoba, apricot, etc. Remember, you cannot use essential oils as a base, as this will prevent the product from hardening. Alkali (in the form of fragments or small granules). It can also be

bought in specialized stores. Water, milk or herbal infusion (used as a liquid base). Usually, the share of such a base is 30-35% of the total mass of the mixture.

Essential oils, fragrances. The choice of oils is not limited to anything - most of them have a positive effect on the human body. For example, jasmine improves mood, and lavender calms and helps you fall asleep. Professional or natural dyes. The first can be bought in specialized stores. The main advantage of such paints is their brightness and variety. If you want to use natural ingredients, pay attention to sandalwood powder - it adds redness, chlorophyllipt - add green color, turmeric - turns orange. You can add chocolate, coffee, or cinnamon to your soap to get a brown color. If you want to work with a ready-made soap base, you will need the following ingredients. The soap base itself or baby soap. Some soap manufacturers use baby soap as a base. If you are just beginning to understand the basics of this activity, do not forget to pay attention to the next point - avoid products with a smell (often manufacturers of children's products add special ingredients to it), because it is almost impossible to neutralize it. However, the simplest and at the same time convenient option will be the so-called soap base. They are sold in any specialized store. Its great advantage is that you can choose a transparent or matte finish, depending on the design of the soap. Alcohol or strong alcohol - used to spray the soap itself in liquid form and molds. Essential oils and fragrances. Paints. Various accessories and decorative elements. Nuts, honey, flakes, cream, crushed pieces of other soap, grains, pieces of fruit, dried leaves and flowers, coffee beans, sparkles (glitter), pictures, etc. You can add almost anything to homemade soap. Price of ingredients: Soap base - from 220 to 340 rubles. for 1 kg; Essential oils - from 50 rubles. for the pipe; Basic oils - from 80 to 200 rubles. for the vial; Paints (special) - about 270 rubles. For 30 years In general, buying ingredients for 3 kg of soap will cost you about 4 thousand rubles. This amount is sufficient to produce enough products, including samples, to test different techniques and start selling and looking for suitable distribution channels. Necessary equipment To make soap at home, you do not need to buy expensive, special equipment. Simple things will be enough, most of which can be found in the kitchen of any housewife. But do not use cooking utensils to make soap - it is fraught with health problems. To make soap from scratch, you will need: Respirator, gloves and goggles; Kitchen scales; Dishes, pans; pipette; A spoonful. To prepare products from a ready-made base, you will need:

- Electronic kitchen scales;
- Soap mixing bowls, water bath pans (if you want to melt the soap this way);
pipette;
- Spoon (metal or plastic); pulverizer;
- Kitchen thermometer;
- Forms (special molds or ordinary plastic cups, candy boxes, ice molds, etc. can be used);

Microwave (if you do not plan to melt the base in a water bath). Even if you have this kit in your kitchen, the purchase of such simple equipment will cost you about 4 thousand rubles. Step-by-step production technology As we mentioned earlier, there are two main methods of making homemade soap: soap from scratch (divided into cold and hot methods) and products from a ready base. Each of them has two advantages from a business perspective. Soap is produced completely independently "from scratch", i.e. the soap maker buys solid oils (olive, coconut, palm), lye and makes soap. Thus, the customer knows that he is buying a completely

natural, healthy product (base oils have a great effect on the skin, and the master himself can choose how this or that soap will affect him). Despite the fact that such products can be very beautiful thanks to various additives, interesting techniques, it is still difficult to compare them with products from a ready-made base. Masters who prefer the second method rely on design. Bases bought in specialized stores can be transparent and white, they are simply melted, painted, then it all depends on the skill and imagination of the soap maker. So, the soap made in this way can have interesting pictures, various decorations, which look perfect thanks to the transparent base. In addition, this process is much easier and safer, because you do not have to deal with alkali.

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